REMARKS

Amendment to claim 1 is to move a limitation from the preamble to the claim body. Amendment to figure 11 is to illustrate a feature described in paragraph 75 of the subject application. No new matter has been added.

I. Claim Rejections under 35 U.S.C. § 101

Claims 1-13 stand rejected under 35 U.S.C. § 101. According to the Office Action, the recitation of "processor" in the claim preamble does not overcome the § 101 rejection. Accordingly, claim 1 has been amended to move the limitation regarding the "processor" from the preamble to the body of the claim. Since the subject matter of claim 1 is tied to a specific processor, claim 1 and its dependent claims should satisfy § 101.

Further, claim 1 recites the act of enhancing a feature of the input image. Since such act results in a physical transformation in a real world, claim 1 and its dependent claims should satisfy § 101 for this additional reason.

II. Claim Rejections under 35 U.S.C. § 112

Claims 63-64 stand rejected under 35 U.S.C. § 112, first paragraph. Applicant believes that the Examiner meant to reject claims 64-66. Claim 64 recites that the act of determining whether the object has moved *does not require a determination of an amount of movement by the object* (Emphasis Added). Claim 65 recites that the means for determining whether the object has moved is configured to determine whether the object has moved *without determining an amount of movement by the object* (Emphasis Added). Claim 66 recites that the act of determining whether the object has moved *does not require a determination of an amount of movement by the object* (Emphasis Added).

Applicant respectfully submits that the subject matter of these claims is supported by at least paragraphs 75-80 of the published application. In particular, paragraph 75 describes that it may be desirable to determine whether "there is target object movement" without requiring the need to determine "how much an object has moved." Also, paragraphs 75-80 provide an example of an embodiment that illustrates how such objective can be accomplished. Thus, the applicant of the subject application clearly has possession of the subject matter of claims 64-66

in view of paragraphs 75-80 of the subject application at least as of the date of the application (Note that the test of written description under § 112 is whether the inventor(s) has possession of the claimed subject matter, not whether the exact same claim term is used in the specification).

For at least the foregoing reasons, Applicant respectfully requests that the § 112 rejection be withdrawn.

III. Objection to the Specification

The specification stands objected to because the subject matter of claims 64-66 allegedly are not described in the specification. Applicant believes that the remarks addressing the § 112 rejection also render the objection to the specification moot.

IV. Objection to the Drawing Figures

The drawings stand objected to because the features of claims 64-66 are not shown in the drawing figures. Figure 11 has been amended to show the features described in claims 64-66. Support for such amendment can be found at least in paragraphs 75-80 of the subject application. Thus, no new matter has been added.

V. Claim Rejections under 35 U.S.C. § 103

Claims 1-4, 6-9, 12-14, 18, 20, 23-27, 31-36, and 61-63 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. 2003/0086596 (Hipp) in view of U.S. Patent No. 6,266,443 (Vetro), and further in view of U.S. Patent No. 5,535,289 (Ito).

Claim 1 recites that the act of enhancing is performed such that an image of the moving object is enhanced relative to an image of a relatively stationary object if the moving object moves relative to the stationary object. Claims 22, 31, and 63 recite similar limitations. Applicant agrees with the Examiner that Hipp does not disclose or suggest enhancing an image if the moving object moves relative to the stationary object. According to page 9 of the Office Action, column 1, line 64 to column 2, line 4 of Vetro allegedly disclose the above limitations. Applicant respectfully disagrees.

As an initial matter, Applicant wishes to point out that claims 1, 22, 31, and 63 describe that if a moving object moves relative to a stationary object, then an image of *the* moving object

(i.e., the same object that moves) is enhanced relative to an image of *the* relatively stationary object (i.e., the same stationary object relative to which the moving object moves). Vetro does not disclose or suggest such features. Rather, the cited passages of Vetro disclose producing a so-called "motion enhanced image" by "filtering and motion analysis" (see c1:66-c2:1). There is nothing in the cited passages of Vetro that discloses or suggests that if a moving object moves relative to a relatively stationary object, then the *same* moving object is enhanced relative to the relatively stationary object.

Also, Applicant respectfully notes that the boundary detection of Vetro cannot be considered to be the enhanced input image as descried in the claims. This is because column 2, lines 4-5 state, "Each motion enhanced image is searched for a potential boundary using the search parameters." This passage indicates that boundary detection is performed after the motion enhanced image is obtained, and therefore, the so-called "motion enhanced image" in Vetro is actually not accomplished by the boundary detection.

Ito also does not disclose or suggest the above limitations, and is not being relied upon for the disclosure of the above limitations. Since none of the cited references discloses or suggests the above limitations, any purported combination of these references cannot result in the subject matter of claims 1, 22, 31, and 63. For at least the foregoing reasons, Applicant submits that the prima facie case of the § 103 rejection for claims 1, 22, 31, and 63 based on Hipp, Vetro, and Ito has not been established, and requests that the § 103 rejection be withdrawn.

Claim 1 also recites that *the act of enhancing is accomplished at least in part by performing image averaging and image subtraction* (Emphasis Added). Claims 22, 31, and 63 recite similar limitations. According to pages 8-9 of the Office Action, paragraph 40 of Hipp allegedly discloses image averaging, and column 2, lines 1-3 and figure 1a of Ito allegedly disclose image subtraction.

As an initial matter, Applicant respectfully notes that the Office Action has not provided any reason why one skilled in the art would be motivated to combine the imaging averaging technique of Hipp with the image subtraction technique of Ito. Notably, paragraph 40 of Hipp discloses performing image averaging for images that are generated in a sequence as an object moves. On the other hand, the cited passage of Ito discloses performing image subtraction for

two images that are generated using different energies (low and high energies). Notably, the image subtraction technique of Ito is specifically for reducing noise in "energy subtraction image" (see c1:6-11), while the image averaging technique of Hipp is specifically for reducing noise in an image sequence (video). There is nothing in the art to suggest that a multi-energy image subtraction method has any applicability to a method of averaging images formed in sequence, and vice versa.

Also, combining Hipp and Ito would render both of these references inoperable since Hipp requires images in a sequence (presumably generated using a same energy level) to be averaged when on the other hand, Ito requires images with different energies be used in the image subtraction. Note that the prima facie case of the § 103 rejection cannot be established if the purported combination would render either reference inoperable.

For these additional reasons, Applicant submits that the prima facie case of the § 103 rejection for claims 1, 22, 31, and 63 based on Hipp, Vetro, and Ito has not been established, and requests that the § 103 rejection be withdrawn.

Claims 40, 43, 46, 47-49, 50, 53, and 56 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over U.S. Patent No. 6,075,557 (Holliman) in view of Hipp.

Claim 40 recites that the act of determining whether the object has moved comprises *using a contrast associated with the first composite image* (which is obtained by performing a subtraction function) (Emphasis Added). Claims 50 and 53 recite similar limitations. According to page 21 of the Office Action, Holliman does not disclose that the first image is a composite image. However, Applicant also notes that the beginning of the same paragraph on page 21 of the Office Action states that element 49 in figure 12 of Holliman allegedly discloses a composite image. To the extent that the Office Action is relying on element 49 in figure 12 of Holliman for the alleged disclosure of a composite image, Applicant submits that such passage of Holliman does not disclose or suggest a composite image. Rather, element 49 of Holliman actually discloses template matching between a template and an image area (see figure 12), and therefore, the element 49 does not disclose or suggest a composite image.

Also, contrary to the Examiner's characterization of element 49 that it discloses a composite image, Applicant respectfully notes that element 49 in figure 12 actually states

"Template matching by finding the position where there is a best correlation between the template and the underlying image area." Thus, the template matching in Holliman actually involves using correlation between the template and an image area, and does not involve determining a composite image. Notably, the correlation determination results in a "correlation value" (see element 50 of figure 12), which is a number, and therefore, is clearly not a composite "image."

Pages 4 and 21 of the Office Action also cites to column 11, lines 33-38 of Holliman for the disclosure of a "differential movement method," and states that such method "is used to create a composite image between the template and the input image." However, as discussed, Holliman discloses template matching that results in a single value, not a composite image. Thus, based on the Examiner's characterization of Holliman, the differential movement method for the alleged template matching actually results in a value, not an image. This is further evidenced by the description in Holliman, describing that the cross-correlation value at the best-matched position resulted from the template matching "would be 1" (c14:20-21). Thus, Holliman clearly does not disclose or suggest the above limitations.

Page 21 of the Office Action also cites to paragraph "40, lines 4-11" of Hipp. To the extent that the Office Action is relying on this passage of Hipp for the alleged disclosure of using a subtraction function to determine a composite image, Applicant also submits that such passage of Hipp does not disclose or suggest such feature. Notably, the cited passage of Hipp discloses "averaging" adjacent images. Thus, the Hipp discloses averaging technique, which is not a subtraction function.

Since Holliman and Hipp do not disclose or suggest the above limitations, any purported combination of these references cannot result in the subject matter of claims 40, 50, and 53. For at least the foregoing reasons, Applicant respectfully submits that the prima facie case of the § 103 rejection for claims 40, 50, and 53 based on Holliman and Hipp has not been established, and requests that the § 103 rejection be withdrawn.

Claims 64-66 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Holliman in view of Hipp, and further in view of U.S. Patent No. 5,134,472 (Abe).

Claim 64 recites that the act of determining whether the object has moved *does not require a determination of an amount of movement by the object* (Emphasis Added). Claim 65 recites that the means for determining whether the object has moved is configured to determine whether the object has moved *without determining an amount of movement by the object* (Emphasis Added). Claim 66 recites that the act of determining whether the object has moved *does not require a determination of an amount of movement by the object* (Emphasis Added).

Applicant agrees with the Examiner that Holliman and Hipp do not disclose or suggest the above limitations. According to the Office Action, column 1, lines 43-55 of Abe allegedly disclose the above limitations. Applicant respectfully disagrees. First, Applicant respectfully notes that column 1, lines 43-55 does not disclose or suggest that an amount of movement of the object is not determined. Rather, quite the opposite, Abe in fact discloses using position data in its algorithm (See for example, claim 7 stating "generating at least two position signals corresponding to at least two positions of the moving object."). Also, column 8, line 31 of Abe discloses YE_f-YE_n, which corresponds to an amount of movement of object from coordinate YE_n to coordinate YE_f (see figure 8B).

Since Holliman, Hipp, and Abe do not disclose or suggest the above limitations, any purported combination of these references cannot result in the subject matter of claims 64-66. For at least the foregoing reasons, Applicant submits that the prima facie case of the § 103 rejection for claims 64-66 based on Holliman, Hipp, and Abe has not been established, and requests that the § 103 rejection be withdrawn.

CONCLUSION

If the Examiner has any questions or comments regarding this response, please contact the undersigned at the number listed below.

To the extent that any arguments and disclaimers were presented to distinguish prior art, or for other reasons substantially related to patentability, during the prosecution of any and all parent and related application(s)/patent(s), Applicant(s) hereby explicitly retracts and rescinds any and all such arguments and disclaimers, and respectfully requests that the Examiner re-visit the prior art that such arguments and disclaimers were made to avoid.

The Commissioner is authorized to charge any fees due in connection with the filing of this document to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **VM 03-009**. The Commissioner is authorized to credit any overpayment or to charge any underpayment to Vista IP Law Group's Deposit Account No. **50-1105**, referencing billing number **VM 03-009**.

Respectfully submitted,

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